

REMARKS

With entry of the foregoing amendment, claims 1-42 remain in the application. No claim has been allowed.

Claims 18-29 and 38-39 were objected to because of wording informalities. The wording suggested by the Examiner is now adopted.

Claims 15-17 and 35-37 were rejected under 35 USC §112 as supposedly omitting essential elements. An antenna has now been positively recited in these claims. Thus, this rejection should now be withdrawn.

Claim 42 was also rejected under 35 USC §112, second paragraph. With the amendment to claim 42 it is believed that antecedent basis now exists for each of the indicated features.

Many of the claims were again rejected in view of the prior art, this time under 35 USC §102(e) as being anticipated by Moriyama, U.S. Patent 6,307,879. The Examiner argued that Moriyama has a CPU 41 which determines a Bit Error Rate (BER), and which processes a Received Data (RD) signal to detect eye distortion at the outputs of FIR filters 22 and 23.

Applicants again however respectfully urge the Examiner to carefully review the prior art, as neither Moriyama nor any other cited prior art actually discloses the claimed invention.

In particular, Applicants' claim 1 recites in part "calculating a metric indicative of a changing environment between the first and second stations as a function of an underlying change in at least one modulation attribute of a signal transmitted across the wireless link". Applicants thus measure changes in the modulated signal rather than a signal which has been subjected to demodulation processing.

Furthermore, Applicants' claim 1 now requires "adjusting at least one parameter of the wireless link to compensate for rapid changes affecting the signaling path". Applicants respectfully submit that while Moriyama does not make adjustments to receiver circuitry, he does not actually adjust parameters of the wireless link itself. Amended claim 1 now more particularly recites that it is a parameter of the wireless link itself that is adjusted.

More particularly, Moriyama discloses a digital radio communication apparatus that does use digital filters to process a received signal. It is suggested in Moriyama that the parameters of a receiver filter can be changed. The Examiner actually admits that the CPU 41 in Moriyama

processes the Received Data (RD) signal output by the FIR filters 22, 23. Thus, Moriyama, similar to the Cheng prior art discussed in the previous response is only processing a demodulated received signal.

In other words, any amplitude, frequency or phase modulation on the Radio Frequency (RF) signal received by the mobile unit is removed by circuitry such as Moriyama's mixers 7, 9; analog band pass filters 8, 10, 12; IF amplifiers 11, 13; Quadrature Detector Unit (QDU) 14 and AGC circuitry 25. The eye distortion detected in the Received Data (RD) signal is thus calculated on a demodulated signal. The demodulated signal might still have phase and amplitude information but this is not the same thing as determining a modulation attribute.

As it has been pointed out previously, Applicants are careful to determine the rapid changes as a function of modulation attributes. For example, in terms of an amplitude modulation embodiment, Applicants' Fig. 6A (as has been previously described in earlier responses) illustrates using an AGC voltage signal within an AGC control circuit to calculate a metric indicative of a changing signaling environment. Because Moriyama's RD signals are output after an AGC control circuit, they would yield no information with regard to these modulation attributes.

We furthermore note that Applicants' claims require adjusting a parameter of the wireless link itself. Moriyama merely discloses, in response to detecting eye distortion, changing parameters of the receiver itself. For example, in column 15, lines 60-66 he says to control the FIR filters 22, 23. But this is not the same thing as changing parameters of the link. For example, Applicants link parameters (as further recited in dependent claim 18) relate to things such as the data transfer rate, the power level, the FEC coding rate, modulation attributes or antenna characteristics.

The Examiner also rejected claims 3 and 4, reasoning that Moriyama teaches that the eye distortion is directly related to degradation in reception level and that reception level is related to distance between two stations. However, Applicants' claim 3 and 4 require that the metric be indicative of motion of the stations and not the distance between them. The Examiner points out that the reception level may be relatively high when the distance is small and the reception level may be relatively low when the distance is large. But, motion is not the same thing as distance. For example, two stations may be rapidly moving, but still be relatively close to one another. In

that instance, the reception level would be relatively high, and reception level alone would not necessarily disclose information relating to speed. Moriyama thus does not contemplate motion between the stations, and certainly does not detect its effect on modulation attributes.

Applicants' claims 5-7 actually require that the metric be computed from a signal within an Automatic Gain Control (AGC) loop. That is not the same thing as operating on a signal that is output by an AGC loop, as has been explained in Applicants' previous response. Once an AGC loop is allowed to process a signal, information relating to modulation attributes is lost.

Claim 8 requires the error signals be produced from a delay lock loop, a matched filter, or a correlator. Moriyama only determines a phase error in a demodulated Received Data signal. The sections cited by the Examiner (column 16, lines 13-16 and column 18, lines 55-60) merely state that Moriyama's circuitry can be applied to CDMA system as well as a TDMA system. There is no mention therein that change in the modulation attribute is calculated from a delay lock loop, matched filter or correlator.

Similarly, Applicants' claim 15 requires adjusting a mode of an antenna in response to calculating a metric indicative of a modulation attribute. Moriyama teaches nothing at all about antennas having different modes and/or adjusting and/or selecting the modes in response to measuring such metrics.

Claim 18 requires that the parameter that is adjusted be a data transfer rate, a power level, a FEC coding rate, modulation attribute or antenna characteristic. No such teachings are found in Moriyama. The Examiner argues only that Moriyama teaches minimizing the frequencies or amplitude offset of a received signal. That does not amount to adjusting the data transfer rate, the power level, the coding rate, the modulation attribute or antenna characteristic of the wireless link itself.

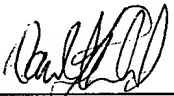
Each of the other claims in the application are allowable for reasons analogous to those stated above.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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